

Chapter 3:- Demand, Supply and Market Equilibrium

Demand:-

الكمية التي يرغب المستهلكون في شرائها في فترة معينة (السعر، الدخل، سعر السلع البديلة، السلع التكميلية)

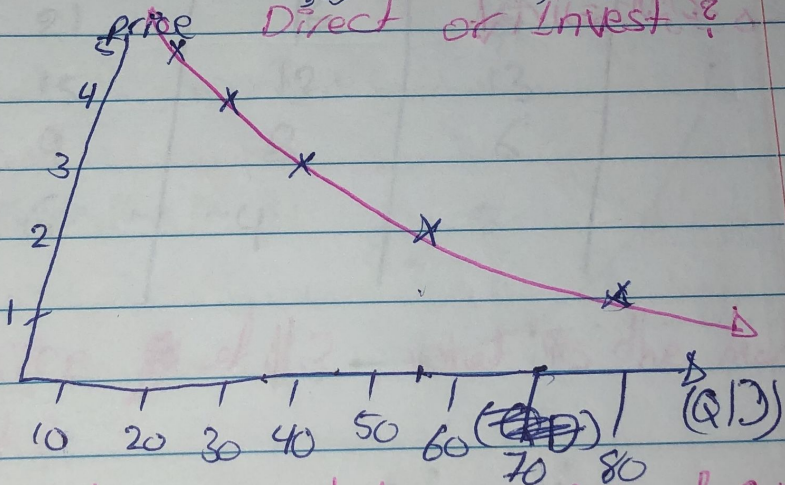
Law of Demand $\rightarrow$ other things equal

as $P \uparrow \rightarrow QD \downarrow$
as $P \downarrow \rightarrow QD \uparrow$

There is a negative (Inverse) relationship between Price and QD

Demand Curve:-

Price	QD
\$ 1	80
\$ 2	55
\$ 3	35
\$ 4	20
\$ 5	10



① Graph the Demand curve
② Is Relationship between P & QD Direct or Inverse?

The Relationship between Price & QD is negative (Inverse).

→ Why Demand curve is downward sloping?

① Marginal Utility → الاستيعاب الإضافي
يكون منحنى دالة

$$Q \uparrow \rightarrow MC \downarrow \rightarrow P \downarrow$$

② Income Effect, Substitution effect

التبديل بين السلع

الشرائعية (قدرة على الشراء)

يخسر من سلعة معينة

كلما زاد سعر السلعة - الشرائعية

القوة الشرائعية يتقل

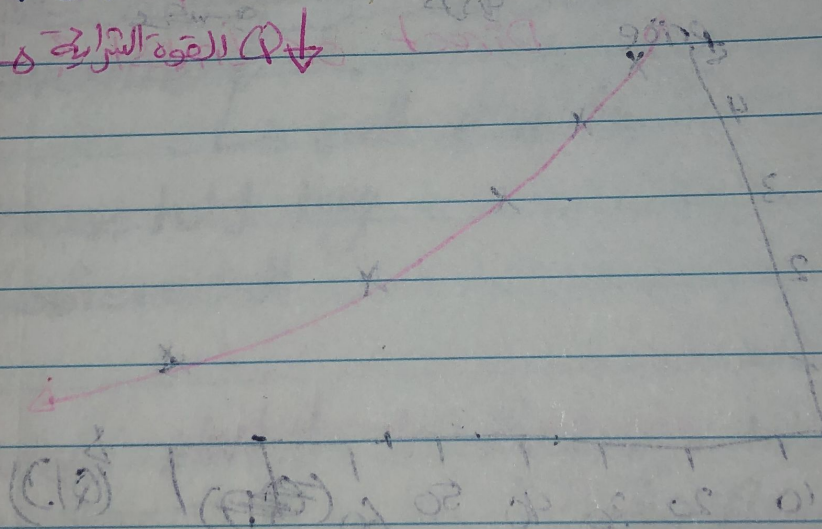
$$P \uparrow \rightarrow \text{القوة الشرائعية} \downarrow$$

$$P \uparrow \rightarrow Q \downarrow$$

sub to sh

التأثير من خلال التبديل

بيع السلع



March, 5

(*) Individual & Market Demand:

↳ Individual Demands - كم انفرادي الطلب
مستوى الفرد

↳ Market Demands - كم الطلب الفعلي (مجموع)
↳ Sum of Individual Demands - (مجموع)

[Ex] The ~~table~~ table below show the Demand for wheat in a market there are just three buyers.

Price	Buyer 1 ^{QD}	Buyer 2 ^{QD}	Buyer 3 ^{QD}
\$2	21	16	15
\$3	15	12	13
\$4	9	8	6
\$5	6	4	5

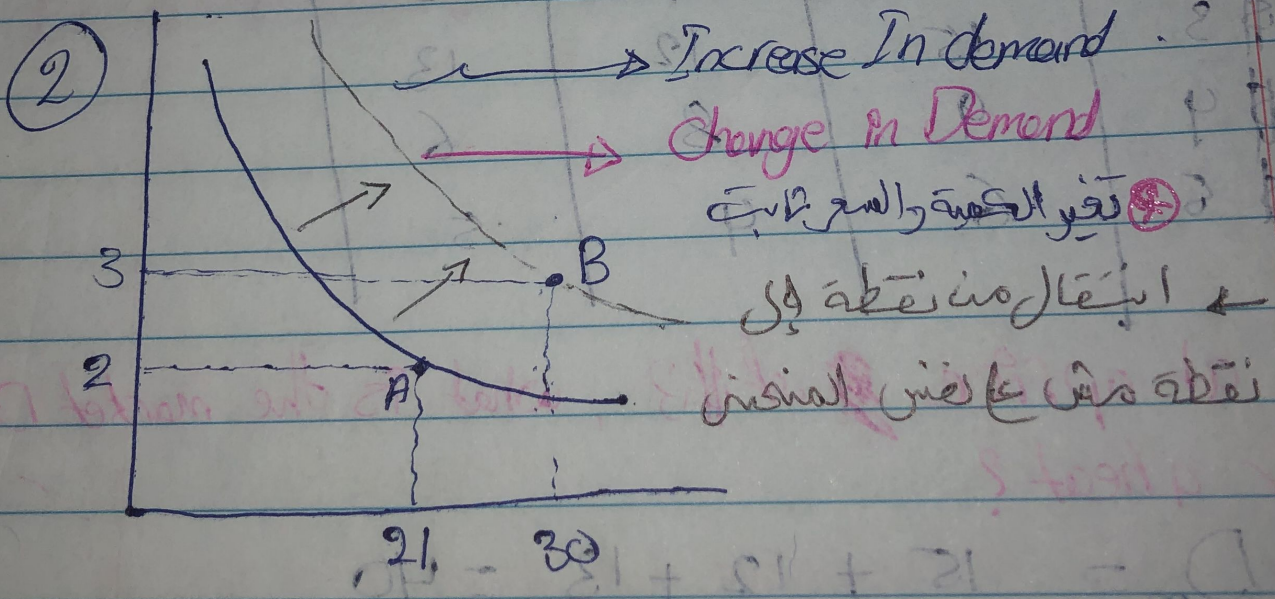
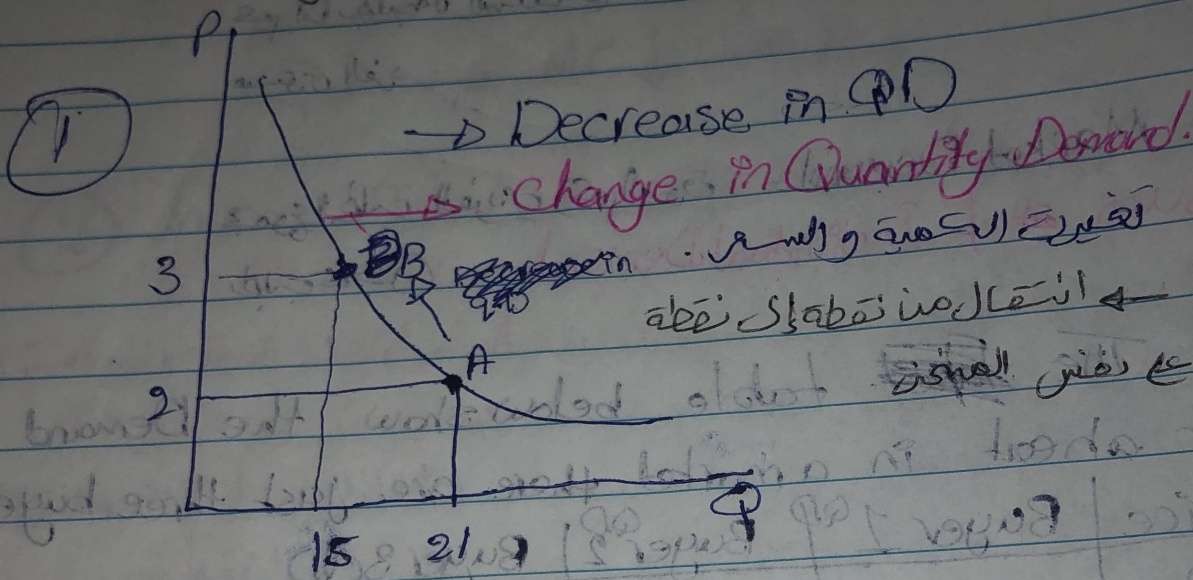
1 at a price of \$3, what is the market Demand for wheat?

Market Demand $D_m = 15 + 12 + 13 = 40$

2 at a price \$5, what is the D_m for wheat?

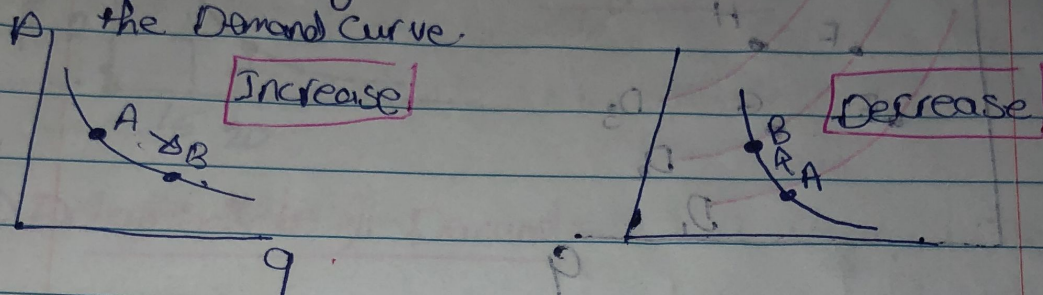
$D_m = 6 + 4 + 5 = 15$

- التغير في الكمية المطلوبة: Change in Quantity Demand
- التغير في الطلب: Change in Demand

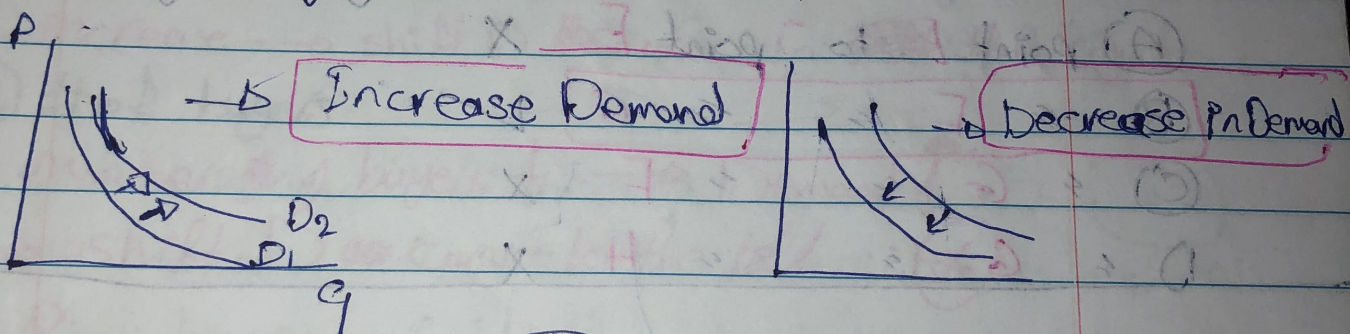


Notes

* Increase in quantity Demand is illustrated graphically as a movement down along the Demand curve.



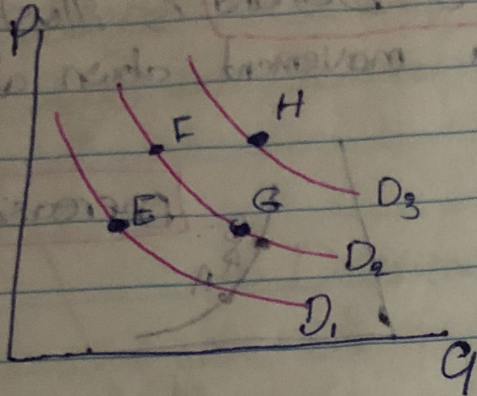
* Change in Demand is illustrated graphically as a shift to the right of the Demand curve.



* Last week ~~at~~ at $P = \$1$ consumer able to buy 10 cans of Cola. this week $\rightarrow$ Consumer able to buy 14 cans of Cola at $P = \$1$

$\hookrightarrow$ Increase in demand

Ex



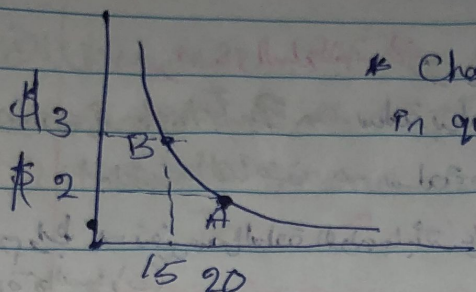
I refer to the graph. An increase in quantity Demand would be illustrated by a change from:-

(A) point E to point F X

(B) point F to point G ✓

(C) point G to point F X

(D) point G to point H X



* Change in a good price leads to change in quantity Demand

* Determinants of Demand =

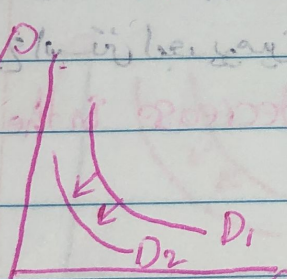
① Consumer preferences. (ذوق المستهلك)

⇒ Consumer preferences increase → demand increase → shift D curve to the right

② # of buyers

number of buyers ↓ → Demand ↓

→ shift D curve to the left (*)



③ Income (I)

↳ normal good $I \uparrow \rightarrow D \uparrow$ / $I \downarrow \rightarrow D \downarrow$

→ Inferior good $I \downarrow \rightarrow D \uparrow$ / $I \uparrow \rightarrow D \downarrow$
(سلع رديئة)

- ④ Price related goods ^{تغير أسعار السلع المرتبطة}
- (A) Substitutes goods ^{سلع بديلة} → iPhone & Samsung
 - (B) Complements goods ^{سلع متكاملة} → الهاتف والسماعة
 - (C) Unrelated goods ^{سلع غير مرتبطة} → تغير سعر السلعة لا يؤثر على السلعة الأخرى (البسورة والسماعة)

* Ex: If goods A & B are substitutes goods.

If $P_A \uparrow \Rightarrow D_B \uparrow$

If goods A & B are complements goods:

If $P_A \uparrow \Rightarrow D_B \downarrow$

⑤ Consumer expectations: ^{توقعات المستهلكين}

المستهلكون يتوقعون أن سعر الهاتف في المستقبل 1500 و بعد يومين 1000
فإننا نلاحظ أن المستهلكين يرون أن الطلب في المستقبل الحالي ويزيد في المستقبل القريب

⇒ If consumers expected price decrease in the future
 ↳ Demand now Decrease
 → shift Demand to the left

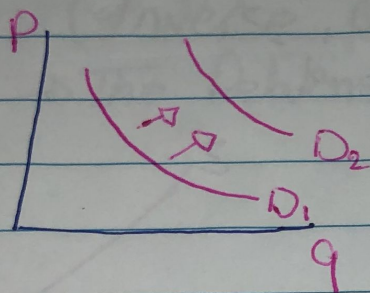
↓ ^{تغير التوقع في سعر السلعة في المستقبل}

March, 7

(*) What effect will each of the following have on the Demand for iPhone 8

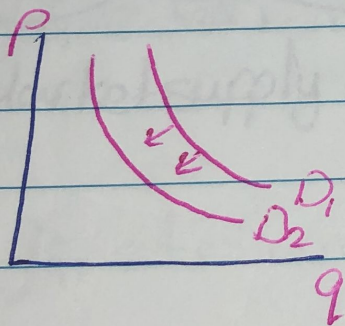
(1) Consumer income rises and iPhone is normal good

Income $\uparrow$ and iPhone ~~is~~ is normal $\rightarrow$ demand for iPhone increase $\rightarrow$ shift Demand to the right.



(2) A decrease in the price of Samsung galaxy S8

Price of Samsung galaxy $\downarrow \rightarrow$ demand iPhone $\downarrow$
 $\rightarrow$ shift Demand to the left.



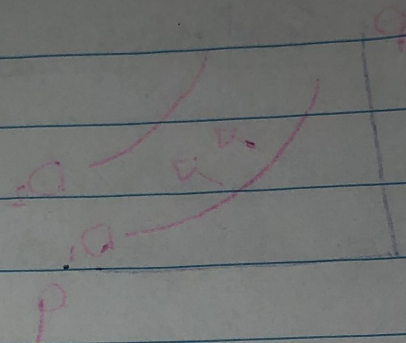
(3) The price of service chip rises اسعار ريش رت كارت ارفاق

Price of service $\uparrow \rightarrow$ Quantity Demand for services $\downarrow$
 $\rightarrow$ Demand for iPhone $\downarrow \rightarrow$ shift Demand to the left.

Findings

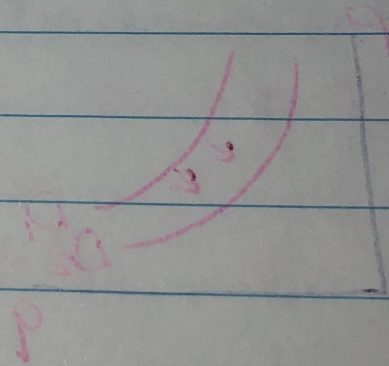
(4) Consumers anticipated that the price of iPhones will greatly come down in the near future.

Demand for iPhone $\downarrow \rightarrow$ Shift to the left.



(5) A decrease in the price of complementary goods

price of complementary goods $\downarrow \rightarrow$ Demand for iPhone $\uparrow \rightarrow$ Shift Demand to the right.



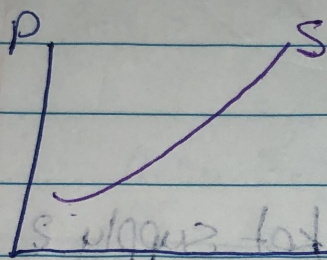
(3) The price of service chip rises $\rightarrow$ Demand for service $\uparrow \rightarrow$ Demand for iPhone $\uparrow \rightarrow$ Shift Demand to the right.

Supply:-

العلاقة بين سعر السلعة والكمية التي يبيعها
البائع بانتاجه.

Low supply:- $p \uparrow \rightarrow Q_s \uparrow$
 $p \downarrow \rightarrow Q_s \downarrow$

(Inverse, positive, Direct.)
The Relationship between P & Q_s



Individual and Market Supply:-

Market supply = Sum of Individual supply at each price.

Price	Firm A Q_s	Firm B Q_s	Firm C Q_s
2	2	3	4
4	4	6	8
6	6	9	12
8	8	12	16

① at $p = \$2$, what is the market supply?

$$2 + 3 + 4 = 9$$

② at $p = \$4$, what is the market supply?

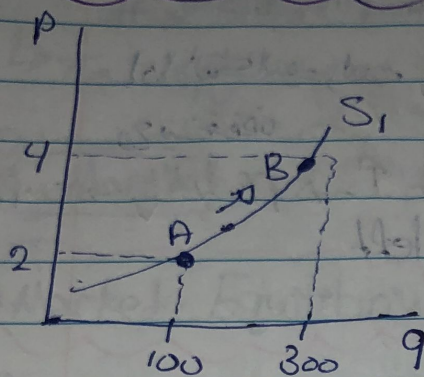
$$4 + 6 + 8 = 18$$

③ at $p = \$8$, what is the market supply?

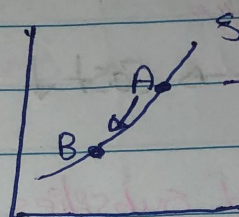
$$= 8 + 12 + 16$$

$$= \underline{\underline{36}}$$

⊗ Change in quantity supply, Change in supply

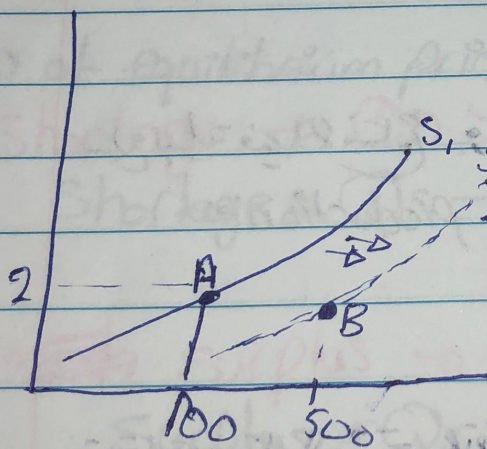


⇒ Change in q_s
Increase in q_s

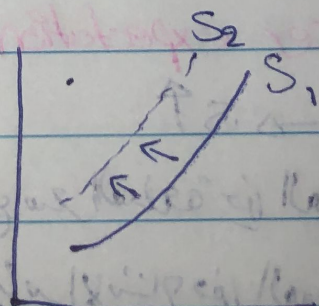


→ Change in q_s
decrease in q_s

Change in supply:



→ Increase in supply



→ Decrease in supply

Determinant of supply:-

① Resources prices:- إذا تزايدت تكاليف ذات البيع
والتكاليف

resources prices $\uparrow \rightarrow$ Cost $\uparrow \rightarrow$ Profit $\downarrow \rightarrow$ Supply $\downarrow$
 $\rightarrow$ Shift supply curve to the left

② Technology

Improvements $\uparrow$ in Technology $\rightarrow$ Cost $\downarrow \rightarrow$ Profit $\uparrow \rightarrow$ Supply $\uparrow$

③ Taxes and subsidies:- الرسوم الحكومية والضرائب

Tax $\uparrow \rightarrow$ Cost $\uparrow \rightarrow$ Profit $\downarrow \rightarrow$ Supply $\downarrow$

Subsidies $\uparrow \rightarrow$ Cost $\downarrow \rightarrow$ Profit $\uparrow \rightarrow$ Supply $\uparrow$

④ prices of other goods

Substitutes in production: سلع بديلة في الإنتاج

If good A & C are substitutes in production:-

Price of A $\downarrow \rightarrow$ Supply of C $\uparrow$

⑤ producer expectation.

توقعات المنتجين على تغير

P $\downarrow \rightarrow$ S $\uparrow$

السعر في المستقبل

إذا أعتد توقع على ارتفاع سعر السلعة في المستقبل فالمنتج

يؤجل انتاجه الي وقت لاحق من مبيعاته في المستقبل ويريد الربح

⑥ # of Sellers.

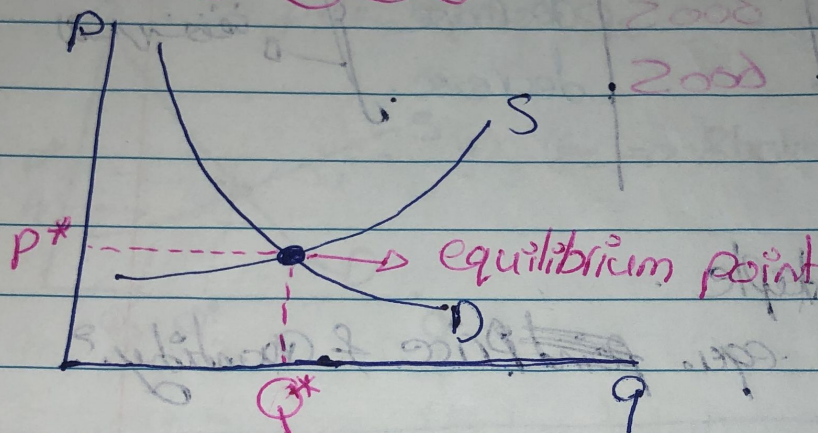
of Sellers $\uparrow \rightarrow S \uparrow$

$\rightarrow$ The supply curve shift to the right.

12, March

(*) Market Equilibrium.

توازن السوق



(*) at equilibrium price* (P^*): $Q_D = Q_S$

(*) Shortage $\rightarrow Q_D > Q_S$

$$\text{Shortage} = Q_S - Q_D$$

(*) ~~Surplus~~ surplus $\rightarrow Q_S > Q_D$

$$\text{Surplus} = Q_S - Q_D$$

Example

→ The following table show the Demand & Supply for wheat.

price	Q_D	Q_S	Shortage or surplus	effect on price
\$3	1200	600	(600) Sh	* increase
\$6	1000	700	(300) Sh	increase
\$9	800	800	0 Equ	No effect
\$12	600	900	300 S	decrease
\$15	400	1000	600 S	decrease

(A) Complete the table.

(B) What is the equ. price & quantity?

$$\rightarrow (Q_S - Q_D) = \dots$$

→ Equ. price = 9\$

Equ. Quantity = 800

(*) Excess demand

→ $Q_D > Q_S$ → Shortage

(*) Excess supply

→ $Q_S > Q_D$ → Surplus

Application :- Government set price

* Price ceiling & Price floor

السقف السعري (Price ceiling) الحد الأدنى للسعر (Price floor)

(*) Price ceiling :- السقف السعري

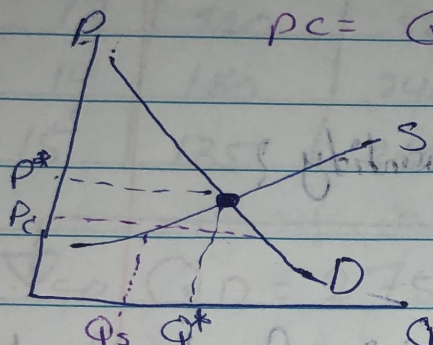
أعلى سعر ممكن تؤكله السوق (حماية للمستهلك)

Maximum legal price.

⇒ ينتج عنه Shortage

$$P_C = Q_D > Q_S \rightarrow \text{Shortage}$$

أقل من سعر التوازن



Block Market ⇒ ينتج

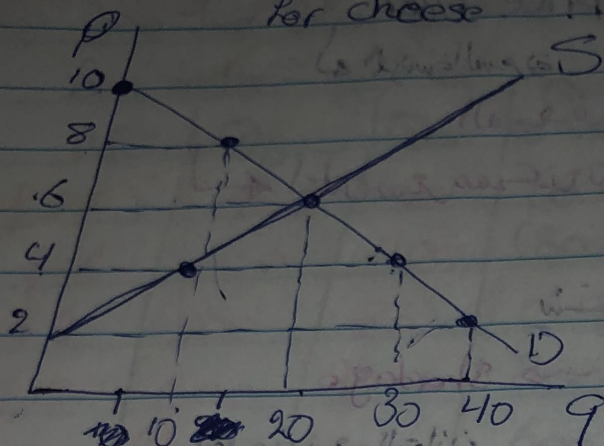
التجار يشتغلوا بالسلعة وبيعوها بأشعارها

(*) Price floor → الحد الأدنى السعري

هو سعر أعلى من سعر التوازن وينتج عنه Surplus فربه

الحكومة كفاية حقوق المنتج

Example Consider the following market demand & supply for cheese



① What is the Equ. Price & Quantity?

$$P^* = \$6$$

$$Q^* = 20$$

② Suppose that the G. set a price of cheese at 4

↳ 1. What is this price control called? price ceiling or price floor?

→ Price ~~ceiling~~ ceiling

2. At this price is there a shortage or surplus?

$$\text{at } P = \$4 : Q_D = 30 \quad Q_S = 10 \Rightarrow Q_D > Q_S \Rightarrow \text{Shortage}$$

3. What is the amount of shortage or surplus?

$$\text{amount} = Q_S - Q_D$$

$$= 10 - 30$$

$$= -20$$

Example Based on the following table which represent the supply and demand for one buyer & one seller of wheat. Answer the following questions:-

price	Q_D	Q_S
10	295	100
11	275	150
12	250	190
13	220	220
14	180	240
15	135	265

A. What is the equ. price? 13
 What is the equ. Quantity? 220

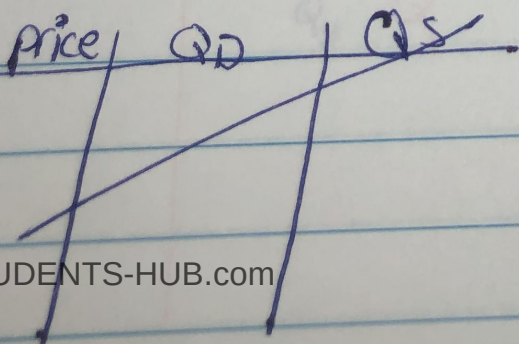
B. ~~At~~ At $p = 11$, Is there a shortage or surplus? why?
 By how much?

$\rightarrow Q_D = 275$ $Q_S = 150 \rightarrow Q_D > Q_S \rightarrow$ Shortage.

$\rightarrow$ Because $Q_D > Q_S$

amount
 $\rightarrow Q_S - Q_D$
 $= 150 - 275$
 $= (125)$

C. Suppose that there are 20 buyers & 15 sellers of wheat in this market. What is the equ. price & quantity of wheat market?



Price	Market Demand	Market Supply
10	5900	1500
11	5500	2250
12	5000	2850
13	4400	3300
14	3600	3600
15	2700	3975

Market Demand = # of buyer * quantity demand

Market Supply = # of seller * quantity supply.

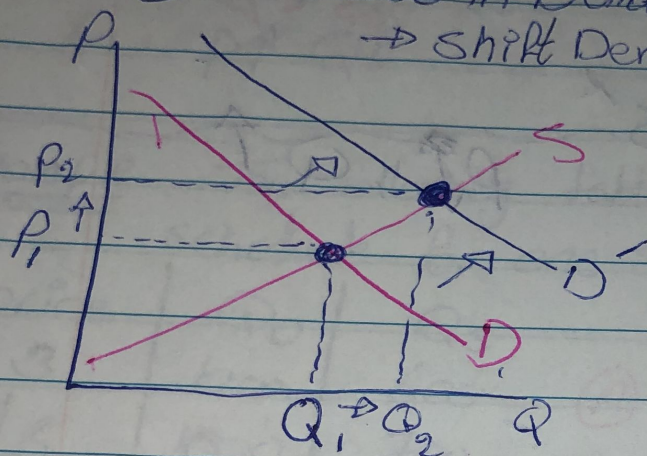
March, 14

* Change in supply, Demand and Equilibrium

↳ Change in demand:-

(A) Increase in Demand

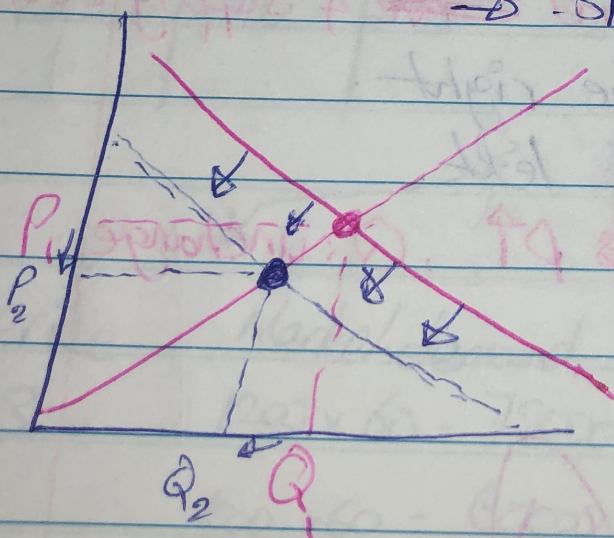
→ Shift Demand curve to the right.



$P \uparrow, Q \uparrow$

(B) Decrease in Demand:-

→ Shift demand curve to the left.



$P \downarrow, Q \downarrow$